

wide range of design for different applications

Dryers

Product Dryers
Sludge Dryers

Utilise best energy
options available for
drying



Paddle, Rotary, Mesh Belt, Fluidised Bed, Flash, Tray & Low Temperature types for selection

Product Dryers, Sludge Dryers

Kawan provide engineered solutions for design & selection of right dryers for customers based on the above criteria with priority be given to pay back period, authority approvals, etc.. Our dryers are safe, environmental friendly with scrubber or exhaust stack. Approval from Department of Environment (DOE) is available when necessary.

We provide integrated solutions from heating sources of reclaimed heat, boiler , thermal oil heaters, exhaust hot air, and their combination. Filtration & Pre drying equipment like filters, filter presses are available for upstream combination. Calculation on energy and disposal costs are provided.

Criteria for selection :

- 1) Energy Available**
- 2) Dryness Required**
- 3) Particle Size**
- 4) Raw Materials**
- 5) Capacity**

APPLICATIONS:

- 1) Empty Fruit Brunch (EFB)**
- 2) Palm Kernel Cake (PKC)**
- 3) Oleochemical Plant Waste**
- 4) Rubber Glove Plant Waste**
- 5) Algae Processing**
- 6) Food Poisoning**
- 7) Waste Water Sludge**

HEATING SOURCES :

- 1) Waste Heat**
- 2) Steam**
- 3) Hot Oil**
- 4) Hot Air**
- 5) Combination of Heat Source From Waste + Steam / Oil / Hot Air**

Hollow Paddle Dryer

Versatile. High moisture removal rate.

Dual counter rotating shaft with unique intermeshing hollow wedge-shaped paddles produce intimate mixing, optimise heat transfer, and provide a self-cleaning feature.



Robust. Low Maintenance.

A large heat transfer area to volume ratio is achieved by the use of hollow paddle and jacketed vessel, at which the heating medium flows. The result is an efficient, compact machine with less space requirements and low installation cost.

Dryness > 95% is achievable depending on the dried product's nature. Post drying cooling can be incorporated if necessary. Heat source can be steam or hot oil. Stainless steel paddle reduces corrosion risks.



Rotary Drum Dryer High Capacity, for various industries.

Suitable for many materials.
Additional Firing optional.
Uses free hot air from
economisers.

Built by a rotating inclined cylinder body. The wet materials are loaded from one end and travel spiral continuously. For certain materials additional flights baffles are added uniformly distributed across the barrel.

It is generally used for Palm Empty Fruit Bunch (EFB), sand and other materials for high volume of production. The hot air sources can come from free exhaust air, steam + air heaters.



Mesh Belt Dryer

Continuous, high capacity, after filter press & granular products

The raw material can be spread on the conveyor belt through right mechanism such as star distributor, vibrating belt, grinder or granulator.

Waste flue gas can be either directly piped into this dryer or via an air to air heat exchangers, therefore giving free energy for drying. The dryer can go multi layers and special designed with air heating and circulation system. The hot air will move up and down when the conveyor belt passes through.



Thin Film. For food drying & making flakes

Drum Dryer works with a rotating drum, product in liquid or molten form is feed to its surface, Additional rolls may be needed for certain products. The solidified product is removed from the drum surface by a cutting knife.

Drum Dryer are used in food, chemical, and pharmaceutical applications. Its design, components are made to suit different products and operating environments. The stainless steel drum is made by precision machining to assure uniform efficient heat transfer. Design and built to ASME VIII.



Continuous drying.

Raw materials are placed on metal conveyor belts, most often the dryer comes in multiple layers to extend retention time so to achieve higher dryness.

It works on all kind of heat source like waste heat, hot air, steam / hot oil. This type of dryer is very heavy duty best for wood chips, oil palm fronds, EFB, etc.



Heavy duty steel conveyors, best for rougher materials and toughness in transpiration of material is needed

**Conveyor Belt Dryers
high throughput
heavy duty**





Fluidised Bed

The raw material is fed into the dryer from the feeding inlet and the material will continuously moving along with the fluidised bed level under action of vibration. The hot air passes through fluidised bed and carries out heat exchange with damp raw materials. The wet air is exhausted out by the cyclone separator.



Flash, Vacuum

For Removing moisture in oil or products under vacuum.

While flash dryers for biodiesel are made by Kawan. The powder type flash dryers are made by our overseas principals.



Low Temperature

Uses low temperature dry air for removing moisture in food / fruit / factory products.

Most suitable for biological waste contains sensitive substance like solvents, flammable, explosive, toxic , food etc. Main drying source is cold air from chillers or coupled with heat pumps.



**ASME 'U', 'S', 'H' &
National Board 'R' Stamp
Holder**

ISO 9001:2015



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